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SEQUENCE LISTING

<110> COMMISSARIAT A L'ENERGIE ATOMIQUE
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE
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VERNET Thierry
MOUZ Nicolas

<120> STREPTOCOCCUS PNEUMONIAE PBP2x MINI-PROTEIN AND USES THEREOF.

<130> F263FR79s

<140>

<141>

<160> 9

<170> PatentIn Ver. 2.1

<210> 1

<211> 551

<212> PRT

<213> Streptococcus pneumoniae

<400> 1

Gly Ser Gly Ala Lys Arg Gly Thr Ile Tyr Asp Arg Asn Gly Val Pro
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Ile Ala Glu Asp Ala Thr Ser Gly Gly Pro Asn Arg Ser Tyr Pro Asn
20 25 30

Gly Gln Phe Ala Ser Ser Phe Ile Gly Gly Gly Met Glu Ser Ser Leu
35 40 45

Asn Ser Ile Leu Ala Gly Gly Gly Gly Asp Gly Lys Asp Val Tyr Thr
50 55 60

Thr Ile Ser Ser Pro Leu Gln Ser Phe Met Glu Thr Gln Met Asp Ala
65 70 75 80

Phe Gln Glu Lys Val Lys Gly Lys Tyr Met Thr Ala Thr Leu Val Ser
85 90 95

Ala Lys Thr Gly Glu Ile Leu Ala Thr Thr Gln Arg Pro Thr Phe Asp
100 105 110

Ala Asp Thr Lys Glu Gly Ile Thr Glu Asp Phe Val Trp Arg Asp Ile
115 120 125

Leu Tyr Gln Ser Asn Tyr Glu Pro Gly Ser Thr Met Lys Val Met Met
130 135 140

Leu Ala Ala Ala Ile Asp Asn Asn Thr Phe Pro Gly Gly Glu Val Phe
145 150 155 160

Asn Ser Ser Glu Leu Lys Ile Ala Asp Ala Thr Ile Arg Asp Trp Asp
165 170 175

2

Val Asn Glu Gly Leu Thr Gly Gly Arg Thr Met Thr Phe Ser Gln Gly
 180 185 190
 Phe Ala His Ser Ser Asn Val Gly Met Thr Leu Leu Glu Gln Lys Met
 195 200 205
 Gly Asp Ala Thr Trp Leu Asp Tyr Leu Asn Arg Phe Lys Phe Gly Val
 210 215 220
 Pro Thr Arg Phe Gly Leu Thr Asp Glu Tyr Ala Gly Gln Leu Pro Ala
 225 230 235 240
 Asp Asn Ile Val Asn Ile Ala Gln Ser Ser Phe Gly Gln Gly Ile Ser
 245 250 255
 Val Thr Gln Thr Gln Met Ile Arg Ala Phe Thr Ala Ile Ala Asn Asp
 260 265 270
 Gly Val Met Leu Glu Pro Lys Phe Ile Ser Ala Ile Tyr Asp Pro Asn
 275 280 285
 Asp Gln Thr Ala Arg Lys Ser Gln Lys Glu Ile Val Gly Asn Pro Val
 290 295 300
 Ser Lys Asp Ala Ala Ser Leu Thr Arg Thr Asn Met Val Leu Val Gly
 305 310 315 320
 Thr Asp Pro Val Tyr Gly Thr Met Tyr Asn His Ser Thr Gly Lys Pro
 325 330 335
 Thr Val Thr Val Pro Gly Gln Asn Val Ala Leu Lys Ser Gly Thr Ala
 340 345 350
 Gln Ile Ala Asp Glu Lys Asn Gly Gly Tyr Leu Val Gly Leu Thr Asp
 355 360 365
 Tyr Ile Phe Ser Ala Val Ser Met Ser Pro Ala Glu Asn Pro Asp Phe
 370 375 380
 Ile Leu Tyr Val Thr Val Gln Gln Pro Glu His Tyr Ser Gly Ile Gln
 385 390 395 400
 Leu Gly Glu Phe Ala Asn Pro Ile Leu Glu Arg Ala Ser Ala Met Lys
 405 410 415
 Asp Ser Leu Asn Leu Gln Thr Thr Ala Lys Ala Leu Glu Gln Val Ser
 420 425 430
 Gln Gln Ser Pro Tyr Pro Met Pro Ser Val Lys Asp Ile Ser Pro Gly
 435 440 445
 Asp Leu Ala Glu Glu Leu Arg Arg Asn Leu Val Gln Pro Ile Val Val
 450 455 460
 Gly Thr Gly Thr Lys Ile Lys Asn Ser Ser Ala Glu Glu Gly Lys Asn
 465 470 475 480

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3

Leu Ala Pro Asn Gln Gln Val Leu Ile Leu Ser Asp Lys Ala Glu Glu
 485 490 495

Val Pro Asp Met Tyr Gly Trp Thr Lys Glu Thr Ala Glu Thr Leu Ala
 500 505 510

Lys Trp Leu Asn Ile Glu Leu Glu Phe Gln Gly Ser Gly Ser Thr Val
 515 520 525

Gln Lys Gln Asp Val Arg Ala Asn Thr Ala Ile Lys Asp Ile Lys Lys
 530 535 540

Ile Thr Leu Thr Leu Gly Asp
 545 550

<210> 2

<211> 46

<212> DNA

<213> Artificial sequence

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<223> Description of the artificial sequence:primer

<400> 2

gtcgacttag tctcctaaag ttaatttaat ttttttaatg tttttg

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<210> 3

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<212> DNA

<213> Artificial sequence

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<210> 4

<211> 43

<212> DNA

<213> Artificial sequence

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<210> 5

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<212> DNA

<213> Artificial sequence

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<223> Description of the artificial sequence:primer

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<210> 6

<211> 48

<212> DNA

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<212> DNA

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<212> DNA

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ccgcatatgg ccaaactgtg gactatattat 30

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<211> 32

<212> DNA

<213> Artificial sequence

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<223> Description of the artificial séquence:primer

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